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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/567,485	02/07/2006	Matthias Illing	022862-1071-00	8675

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EXAMINER	
MILLER, SAMANTHA A	
ART UNIT	PAPER NUMBER
3749	
MAIL DATE	DELIVERY MODE
05/13/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/567,485	ILLING ET AL.	
	Examiner	Art Unit	
	SAMANTHA A. MILLER	3749	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *28 February 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,3-6,9,11,13,15-18 and 20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,3-6,9,11,13,15-18 and 20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *30 November 2007* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

Receipt of applicant's amendment filed on 2/28/2008 is acknowledged

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1, 3-6, 9, 11, 13, 15-18, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chatterjee (6,471,136) in view of Dussault (5,261,415) in further view of Mayer (WO099/48756, refer to US 6,551,184 for line and column numbers as being the equivalent English translation).

Chatterjee teaches:

1. To regulate a circulating air and/or intake air portion (60, 70) in a passenger compartment of a vehicle, in particular a motor vehicle (col.5 ll.1-8), with a sensor (10) for detecting hazardous gas concentrations in the passenger compartment and for supplying a triggering signal of a control unit (100) for the circulating air and/or intake air portion in a passenger compartment (col.4 ll.51-65), characterized in that the sensor is a temperature-compensated sensor (being able to sense the temperature), whereby, in addition to the hazardous gas concentration measured by the sensor, the temperature

measured by the sensor for temperature compensation of the sensor for detecting the hazardous gas concentration is used to regulate the circulating air and/or intake air portion in the passenger compartment (col.7 ll.45-49 and col.4 ll.51-65). The control unit (100) for the circulating air and/or intake air portion induces the supply of the passenger compartment in an alternating manner with either exclusively circulating air (col.5 ll.1-8) or exclusively intake air (60) as a function of exceeding or falling short of a hazardous gas concentration threshold value (col.4 ll.50-65).

3. The control unit (100) for the circulating air and/or intake air portion (60, 70) controls the size of the circulating air portion in the passenger compartment of the vehicle (col.4 l.50 –col.5 l.8).

4. The size of the circulating air portion in the passenger compartment controlled by the control unit moves in a pre-definable range of a tolerable hazardous gas concentration in the passenger compartment (col.4 ll.37-65).

5. The control unit (100) for the circulating air and/or intake air portion (60, 70) increases the circulating air portion in the passenger compartment when there is an increase in the outside temperature of the passenger compartment (being a control climate system with the option of a temperature sensor (30) as the temperature outside increases the indoor temperature will increase as well this will trigger the temperature sensor to change the signal to controller (100) that will send signal (9) to actuate the vent door (122), col.4 ll.50-65 and col.7 ll.45-50)

6. The control unit for the circulating air and/or intake air portion (60, 70) is a part of a cooling/heating device (82) (col.4 ll.26-32).

7. The sensor for detecting hazardous gas concentrations detects the carbon dioxide concentration in the passenger compartment (col.7 ll.45-50).

9. The control unit for the circulating air and/or intake air portion adjusts the circulating air portion in the passenger compartment to approx. 80% when a person is located in the passenger compartment (optimum value that can be set by passenger, col.4 ll.26-32 and 50-65).

10. The sensor for detecting hazardous gas concentrations communicates with the control unit (100) for the circulating air and/or intake air portion (60, 70) via an analog or a digital interface (measures voltage signals through interface (40), col.4 ll.9-11 and 50-65).

11. A Sensor for regulating a circulating air and/or intake air portion (60, 70) in a passenger compartment of a motor vehicle, the sensor detecting hazardous gas concentrations in the passenger compartment and supplying a triggering signal (9) of a control unit (100) for the circulating air and/or intake air portion in the passenger compartment (122) (col.4 ll.50-65), characterized in that the sensor is a temperature-compensated sensor, whereby, in addition to the hazardous gas concentration measured by the sensor, the temperature (col.7 ll.45-60) measured by the sensor for temperature compensation of the sensor for detecting the hazardous gas concentration is used to regulate the circulating air and/or intake air portion in the passenger compartment, characterized in that the CO2 concentration in the passenger compartment (col.7 ll.45-50) is measured by the sensor via a wavelength-specific

weakening of electromagnetic radiation in the infrared range (CO2 wavelength is in the infrared range which is then sensed by the biosensor with fiber optic probes, col.6 ll.10-23). The control unit (100) for the circulating air and/or intake air portion induces the supply of the passenger compartment in an alternating manner with either exclusively circulating air (col.5 ll.1-8) or exclusively intake air (60) as a function of exceeding or falling short of a hazardous gas concentration threshold value (col.4 ll.50-65).

13. The sensor for detecting hazardous gas concentrations in the passenger compartment and the sensor for temperature compensation form a structural unit (Fig.1 and 2).

14. The control unit for the circulating air and/or intake air portion (60, 70) induces the supply of the passenger compartment in an alternating manner with either exclusively circulating air or exclusively intake air as a function of exceeding or falling short of a hazardous gas concentration threshold value (col.4 ll.50-65).

15. The control unit for the circulating air and/or intake air portion controls the size of the circulating air portion in the passenger compartment of the vehicle (through control climate unit 82 and set value of controller, col.4 ll.26-32 and 50-65).

16. The size (set value) of the circulating air portion in the passenger compartment controlled by the control unit moves in a pre- definable range (in excess of set value) of a tolerable hazardous gas concentration in the passenger compartment (col.4 ll.50-65).

17. The control unit for the circulating air and/or intake air portion increases the circulating air portion in the passenger compartment when there is an increase in the outside temperature of the passenger compartment (being a control climate system with the option of a temperature sensor (30) as the temperature outside increases the indoor temperature will increase as well this will trigger the temperature sensor to change the signal to controller (100) that will send signal (9) to actuate the vent door (122), col.4 ll.50-65 and col.7 ll.45-50).

18. The control unit for the circulating air and/or intake air portion is a part of a cooling/heating device (82) (col.4 ll.26-32).

20. The control unit for the circulating air and/or intake air portion (Vs, Vo) adjusts the circulating air portion (Vs) in the passenger compartment to approx. 80% when a person is located in the passenger compartment (optimum value that can be set by passenger, col.4 ll.26-32 and 50-65).

Chatterjee teaches the invention above, including a biosensor (col.7 ll.45-49). However Chatterjee does not teach exclusively a photometric sensor with wavelengths between 4.2 μm and 4.3 μm.

Dussault (5,261,415) teaches:

The carbon dioxide concentration is measured by the temperature compensated photometric sensor (col.1 ll.49-54) at wavelengths between 4.2 μm and 4.3 μm (optimum range for CO.sub.2, col.2 ll.44-50) and a reference wavelength between 3.8

μm and 4.0 μm (reference wavelength determined to fit detector used being a optimum value, col.3 ll.10-20).

Therefore, it would have been obvious to a person having ordinary skills in the art at the time the invention was made to have modified the biosensor of Chatterjee to have the ranges or values of the photometric sensor of Dussault in order to monitor the concentration of CO.sub.2 in breathing gases with a small lightweight unit (Dussault, col.1 ll.7-12).

Chatterjee in view of Dussault teaches the photometric sensor as described above. However Chatterjee in view of Dussault does not teach 0.2% by volume CO.sub.2.

Mayer (6,551,184) teaches:

The hazardous gas concentration threshold value in the passenger compartment is selected at 0.2% by volume CO.sub.2 (.15% is approximately .2%, col.2 ll.37-45) detected by a temperature compensated sensor (col.4 ll.15-22, col.5 ll.1-7, and claims 1-6).

Therefore, it would have been obvious to a person having ordinary skills in the art at the time the invention was made to have modified the sensor of Chatterjee in view of Dussault to have these values of Mayer in order to correspond to the Pettenkofer

threshold above which signs of fatigue and/or irritations of the eyes or respiratory tract may occur (Mayer, col.2 ll.37-45)

Response to Arguments

Applicant's arguments filed 2/28/2008 have been fully considered but they are not persuasive.

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Applicant suggests it would not be obvious to combine the biosensor of Chatterjee with the properties of the photometric sensor in Dussault since Dussault describes a capnography sensor for monitoring CO.sub.2 concentration in breathing gases. Chatterjee teaches a biosensor (col.7 ll.45-52) that measures CO.sub.2 concentration. A biosensor can be three different types of sensors: a photometric sensor, a electrochemical sensor, or a piezoelectric sensor. Dussault teaches a capnography system which uses a sensor with the principles of photometric gas measurement same as applicant, by using a detector for receiving IR signals in the spectral range of 4.26 for CO.sub.2 to then adjust the CO.sub.2 in the breathing gases (col.1 ll.7-12 and col.3 ll.16-18). Therefore, it would have been obvious to a person having ordinary skills in the

art at the time the invention was made to have modified the biosensor sensor of Chatterjee to have the ranges or values of the photometric sensor of Dussault in order to monitor the concentration of CO.sub.2 in breathing gases with a small lightweight unit (Dussault, col.1 ll.7-12).

Any other of Applicant's arguments with respect to claims 1, 3-6, 9, 11, 13, 15-18, and 20 have been considered but are moot in view of the new ground(s) of rejection.

The rejection of claims 1, 3-6, 9, 11, 13, 15-18, and 20 is for the reasons stated above deemed proper.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Samantha A. Miller whose telephone number is 571-272 9967. The examiner can normally be reached on Monday - Thursday 8:00 - 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steve McAllister can be reached on 571-272-6785. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Samantha Miller
Examiner
Art Unit 3749
5/1/2008

/Steven B. McAllister/

Supervisory Patent Examiner, Art Unit 3749